



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/563,537

12/29/2005

Duk Hyun Ryu

BKI0002US

8657

23413 7590 07/22/2011  
CANTOR COLBURN LLP  
20 Church Street  
22nd Floor  
Hartford, CT 06103

EXAMINER

HAN, KWANG S

ART UNIT

PAPER NUMBER

1727

NOTIFICATION DATE

DELIVERY MODE

07/22/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,537	<b>Applicant(s)</b> RYU ET AL.	
	<b>Examiner</b> Kwang Han	<b>Art Unit</b> 1727	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/9/11</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**SECONDARY BATTERY WITH AN IMPROVED SAFETY**

Examiner: K. Han    SN: 10/563,537    Art Unit: 1727    July 19, 2011

***Continued Examination Under 37 CFR 1.114***

1.     A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 5, 2011 has been entered. Claims 1, 8, 9, 10, and 15 were amended.

2.     The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 112***

3.     The claim rejections under 35 U.S.C. 112, second paragraph, on claims 1-15 are withdrawn, because of Applicants arguments presented in the response of November 19, 2009.

***Claim Rejections - 35 USC § 102***

4.     The claim rejections under 35 U.S.C. 102(b) as being anticipated by Chang et al. on claims 1-15 are withdrawn, because the independent claim 1, 8, 9, 10 and 15 has been amended and claim 18 has been cancelled.

***Claim Rejections - 35 USC § 103***

5. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 6387566) in view of Shibuya et al. (US 6509123).

Regarding claims 1, 6-11, 14 and 15, Chang discloses a lithium ion battery [Abstract] with a battery package comprised of an aluminum foil (electrically conductive aluminum layer) coated with a thin layer of an insulating polymer on the outer layers (laminate film; 2:24-30) forming an adhesive layer (interface of the aluminum foil and coated insulating layer) electrically insulating the foil packaging from the electrode portion which encloses the outer perimeter of the battery, covers the outer surface of the positive and negative electrodes, and a portion of each of the terminals (37, 38) of the positive and negative electrodes (Figure 4A, 4B). Chang further discloses connectors (36a, 36b, conductive material) which form an electrical connection between the aluminum layer and the positive and negative electrodes at an exposed region (Figure 4B) where the aluminum layers (41, 44; Figure 4b) which is connected to the positive or negative electrode being electrically insulated from the negative electrode or positive electrode respectively but is silent towards the positive terminal and the negative terminal being extended outside of the battery package in a same direction.

Shibuya teaches a battery structure provided with positive (7) and negative (8) electrode terminals connected to the metal foil current collectors which protrude in the same direction but can be arranged in any direction as long as no short-circuit or performance degradation is caused (3:38-40; 3:65-4:12; 4:40-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to have protruded

Art Unit: 1727

positive and negative electrode terminals in the same direction in the battery of Chang because Shibuya recognizes battery terminals can be configured in any direction as long as short-circuit or performance degradation considerations are factored.

Furthermore, the courts have held that the configuration of the claimed battery terminals was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the battery terminals was significant. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Regarding claim 2, Chang discloses the aluminum layer of the battery package and the positive and negative terminals to be connected directly with each other (Figure 4B).

Regarding claims 3, 4, 8, and 9, it is noted that these claims are product-by-process claims. "Even though product-by-process are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The battery structure of Chang is similar to that of the Applicant's, Applicant's method of forming the connections and removing a portion of the layer is not given patentable weight in the claims.

Regarding claim 5, Chang discloses the electrically conductive material to be aluminum (2:30-32).

Art Unit: 1727

Regarding claim 12, It is well known to one of ordinary skill in the art that aluminum foil has thermal conductivity. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

Regarding claim 13, Chang discloses a separator (34) interposed between the metal foils (2:11-18).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Contact/Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang Han whose telephone number is (571) 270-5264. The examiner can normally be reached on Monday through Friday 8:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara Gilliam can be reached on (571) 272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1727

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. H./  
Examiner, Art Unit 1727

/Barbara L. Gilliam/  
Supervisory Patent Examiner, Art Unit 1727